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SHARING MEMORY WITHIN AN APPLICATION USING SCALABALE HARDWARE

RESOURCES

IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A method for translating a virtual memory address into a physical memory address in a multi-node system, the method comprising:

initializing in a generally accessible memory an emulated remote translation table (ERTT) segment;

providing the virtual memory address at a source node;

determining that a translation for the virtual memory address does not exist;

determining a virtual node to query based on the virtual memory address;

mapping the virtual node to a physical node accessing an ERTT header to obtain a mapping of the virtual node to a physical node;

querying the ERTT segment on the physical node for the translation for the virtual memory address; and

if the translation is received then loading the translation into a translation lookaside buffer (TLB) on the source node.

- 2. (Canceled)
- 3. (Canceled)
- 4. (Previously Presented) The method of claim 3, wherein mapping the virtual node to a physical node uses a mapping provided by an further comprising locating the ERTT header located at a well known location to one or more nodes used by an application.
- 5. (Original) The method of claim 4, wherein the ERTT header is located on a predetermined virtual node.

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6. (Currently Amended) A computerized system for managing virtual address translations, the system comprising:

a plurality of nodes available for executing programs, each of said nodes having a node memory; and

an ERTT header having one or more mappings of virtual nodes to physical nodes; an operating system executable by a source node of the plurality of nodes, the operating system operable to:

receive a virtual memory address at the source node;

determine that a translation for the virtual memory address does not exist on the source node;

determine a virtual node to query based on the virtual memory address;

map the virtual node to a physical node access the ERTT header to obtain a physical node mapped by the virtual node;

query an emulated remote translation table (ERTT) segment in the generally accessible memory on the physical node for the translation for the virtual memory address; and

if the translation is received then loading the translation into a translation lookaside buffer (TLB) on the source node.

- 7. (Canceled)
- 8. (Canceled)
- 9. (Currently Amended) The system of claim 3, further comprising an wherein the ERTT header is located at a well known location to one or more nodes used by an application to provide the mapping from the virtual node to the physical node.
- 10. (Original) The system of claim 9, wherein the ERTT header is located on a predetermined virtual node.

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11. (Currently Amended) A computer-readable medium having computer executable instructions for executing a method for translating a virtual memory address into a physical memory address in a multimode system, the method comprising:

initializing in a generally accessible memory an emulated remote translation table (ERTT) segment;

providing the virtual memory address at a source node;

determining that a translation for the virtual memory address does not exist;

determining a virtual node to query based on the virtual memory address;

mapping the virtual node to a physical node accessing an ERTT header to obtain a mapping of the virtual node to a physical node;

querying the ERTT segment on the physical node for the translation for the virtual memory address; and

if the translation is received then loading the translation into a translation lookaside buffer (TLB) on the source node.

- 12. (Canceled)
- 13. (Canceled)
- 14. (Currently Amended) The computer-readable medium of claim 13, wherein mapping the virtual node to a physical node uses a mapping provided by an the method further comprises locating the ERTT header located at a well known location to one or more nodes used by an application.
- 15. (Original) The computer-readable medium of claim 14, wherein the ERTT header is located on a predetermined virtual node.
- 16. (New) The method of claim 1, further comprising replicating the ERTT header on a plurality of physical nodes.

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17. (New) The system of claim 9, further comprising a plurality of replicated ERTT headers provided on a plurality of physical nodes.

18. (New) The computer-readable medium of claim 14, wherein the method further comprises replicating the ERTT header on a plurality of physical nodes.